

ENVIRONMENTAL
PROTECTION
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November 7, 1997
961276NA

Ms. Susan Hugo
Hazardous Materials Specialist
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502


Subject: Transmittal of 3rd Quarter 1997 Groundwater Monitoring Results
City of Emeryville Fire Station No. 2 UST Site

Dear Ms. Hugo:

On behalf of the City of Emeryville Redevelopment Agency, transmitted herewith is the subject site quarterly groundwater monitoring results for the third quarter 1997. This is the first monitoring event of an one-year quarterly groundwater monitoring program. The monitoring activities were performed in accordance with the Workplan (Woodward-Clyde, August 1996), which was submitted to and approved by the Alameda County Department of Environmental Health.

Please do not hesitate to call me at (510) 874-3060 or Mr. Ignacio Dayrit of the City of Emeryville Redevelopment Agency at (510) 596-4356 for questions or comments.

Sincerely,



Xinggang Tong, P.E.
Project Manager

cc: Ignacio Dayrit, City of Emeryville

November 6, 1997
961276NA

Mr. Ignacio Dayrit
City of Emeryville Redevelopment Agency
2200 Rowell Street, 12th Floor
Emeryville, California 94608-1806

Subject: Quarterly Groundwater Monitoring Results for the 3rd Quarter 1997
City of Emeryville Fire Station No.2 UST Site

Dear Ignacio:

Woodward-Clyde is pleased to present the third quarter 1997 groundwater monitoring results for the City of Emeryville Fire Station No. 2 UST site, which is located at 6303 Hollis Street in Emeryville, California. This is the first monitoring event of an one-year quarterly groundwater monitoring program. This groundwater monitoring program is requested by the Alameda County Department of Environmental Health (ACDEH) in a letter to the City dated May 29, 1996, and is authorized by the City in a contract to Woodward-Clyde dated July 12, 1996.

Groundwater samples were collected from the on-site monitoring well MW-1 on September 26, 1997, and were delivered to American Environmental Network (AEN) Pleasant Hill Laboratory for the analysis of Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-G), Benzene, Toluene, Ethyl benzene, & Xylenes (BTEX), Methyl Tertiary Butyl Ether (MTBE), and total lead. Results are summarized in Table 1. Concentrations of TPH-G, toluene, total xylenes, and total lead were below their respective laboratory reporting limits. Benzene and ethyl benzene (1.0 and 0.6 ug/l, respectively) were detected only slightly above their laboratory reporting limits. MTBE was reported at 18 ug/l. These concentrations are well below their respective RBCA Tier 1 threshold levels for commercial indoor land use scenario, which was addressed in the RBCA evaluation report prepared by Woodward-Clyde and submitted to ACDEH in May 1997.

Woodward-Clyde retained Environmental Sampling Services to perform field sampling activities. Prior to purging, depth from the top of well casing to water was measured at 4.36 feet using a Solinst electronic water level meter. The well was then purged by manually bailing out 20 gallons (approximately 8 well casing volumes) of groundwater using a disposable PVC bailer. Temperature, pH, and conductivity of the purged water were monitored during the well purging. Well monitoring data sheet is included with this

report. After the water level recovered to about 80% of the static water level and water parameters stabilized, a new disposable bailer was gently lowered into the well approximately half its length past the air-water interface. The bailer was retrieved and the water was promptly transferred to appropriate sample containers supplied by the laboratory. Sample containers were promptly capped, labeled, placed in an ice-cooled container, and delivered to the AEN Pleasant Hill Laboratory in the same day the samples were collected.

The purged water was placed in a 55-gallon DOT drum, which was labeled and left on site for future disposal. Woodward-Clyde retained PLS Surveys, Inc. of Oakland to survey the well elevation on July 10, 1997. The top of the well casing is measured at 17.02 feet mean sea level (MSL).

Please call me at (510) 874-3060 if you have questions or comments.

Sincerely,



Xinggang Tong, Ph.D., P.E.
Project Manager



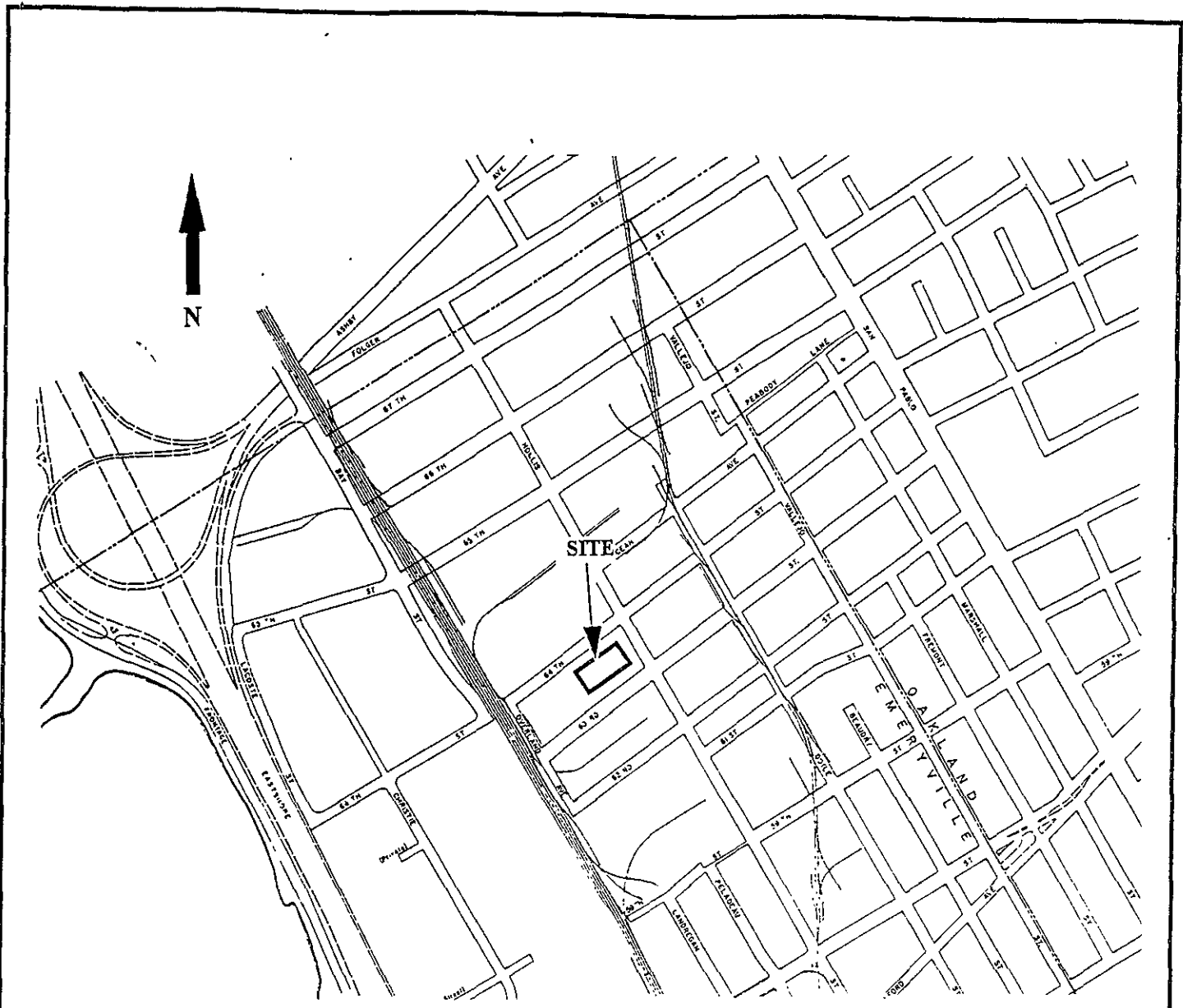
Enclosures:


- A. Site location maps
- B. Table 1 - Groundwater analytical results (current and historical)
- C. Well purging data sheet
- D. Laboratory analytical report

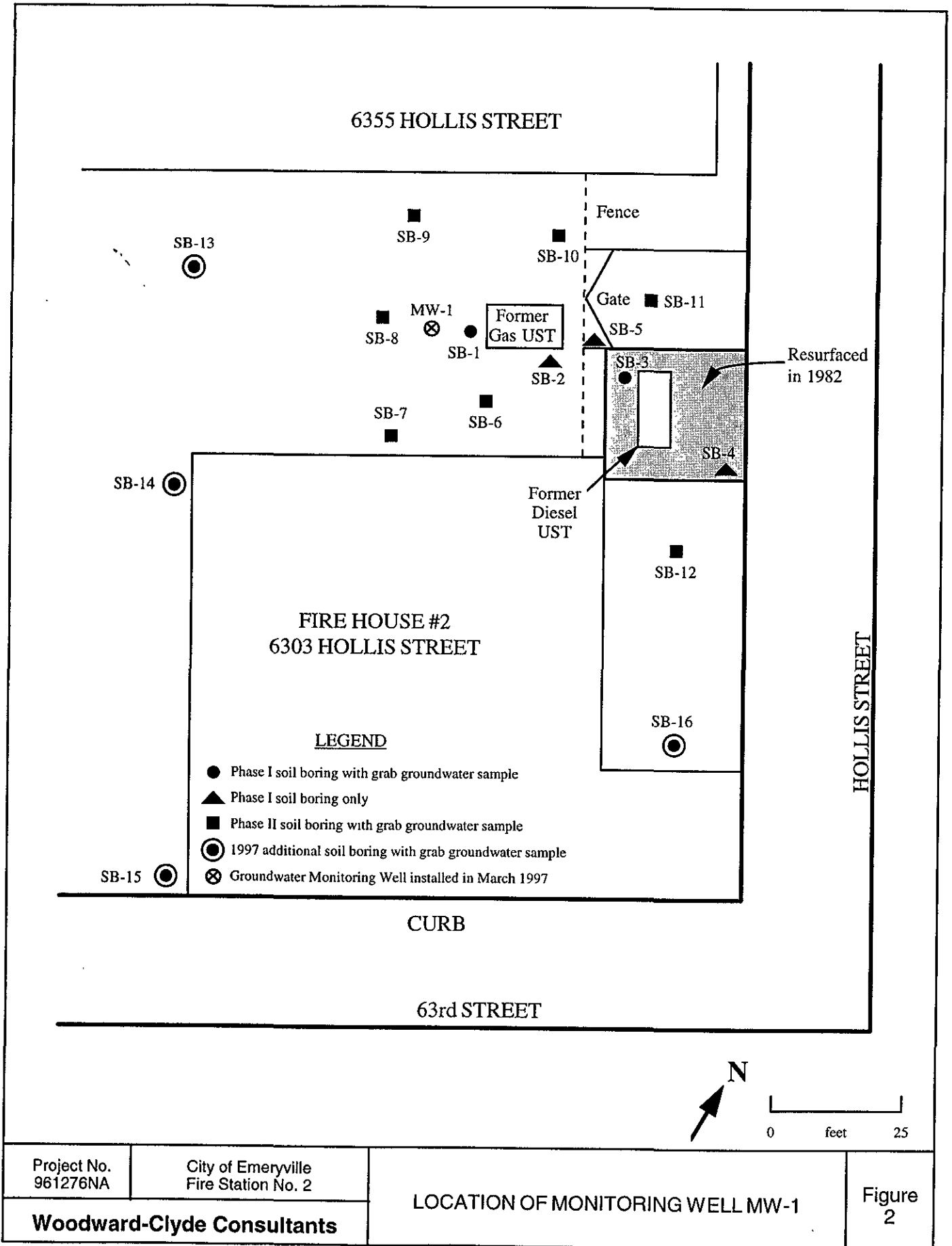
TABLE 1
GROUNDWATER ANALYTICAL RESULTS
CITY OF EMERYVILLE
FIRE STATION No. 2

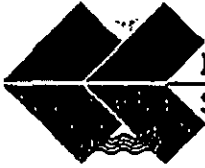
Sample No.	Date Sampled	Water level		TPH ^a Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (ug/L)	Total Lead (ug/L)	Notes
		TOC (ft)	MSL (ft)								
MW-1	9/26/97	4.36	12.66	ND (0.05)	1.0	ND (0.5)	0.6	ND (2)	18	ND (40)	quarterly 97
SB-3	3/15/95	NA	NA	NA	220	3,800	2,500	14,000	NA	NA	Phase I investigation
SB-1	3/15/95	NA	NA	0.99	6.1	40	33	160	NA	NA	
Trip Blank	3/15/95	NA	NA	NA	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	NA	NA	
SB-6-W	6/17/95	NA	NA	0.41	24	27	27	110	NA	NA	Phase II investigation
SB-7-W	6/17/95	NA	NA	5.50	36	30	180	510	NA	NA	
SB-8-W	6/17/95	NA	NA	0.46	18	36	27	100	NA	NA	
SB-9-W	6/17/95	NA	NA	ND (0.05)	ND (0.5)	ND (0.5)	0.7	3.7	NA	NA	Phase II investigation
SB-10-W	6/17/95	NA	NA	ND (0.05)	ND (0.5)	ND (0.5)	0.6	3.3	NA	NA	
SB-11-W	6/17/95	NA	NA	0.23	12	8.6	12	44	NA	NA	
SB-12-W	6/17/95	NA	NA	0.97	40	130	38	170	NA	NA	Phase II investigation
Trip Blank	6/17/95	NA	NA	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	NA	NA	
SB-13-W	3/26/97	NA	NA	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	NA	additional investigation
SB-14-W	3/26/97	NA	NA	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	NA	
SB-15-W	3/26/97	NA	NA	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	NA	
SB-16-W	3/26/97	NA	NA	29	430	1,200	1,000	4,700	ND (500)	NA	additional investigation
Trip Blank	3/26/97	NA	NA	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (5)	NA	

Notes: ^a Total petroleum hydrocarbons by EPA Method 8015 (Mod.), quantified as gasoline.
 Benzene, toluene, ethylbenzene and xylenes by EPA Method 8020.
 NA - Not analyzed; ND - Not detected at or above the detection limit given in parentheses.
 TOC - measured to top of well casing; MSL - mean sea level.



Project No. 94166NA	CITY OF EMERYVILLE Fire Station Number 2	SITE LOCATION	Figure 1
Woodward-Clyde Consultants 			July 15, 1995





**Environmental
Sampling Services**

WELL SAMPLE LOG SHEET Well Identification: MW-1 Date: 9/26/97

Project Name: Fire Station No. 2 Emeryville Client Project Number: 961276NA
 Well Description: 2" 4" 5" 6" 8" Well Type: PVC Stainless Steel
 Is well secured? YES / (NO) Type of lock / lock number: _____
 Observations/Comments: Broken Well Cap not secured w/lock

Purge Method: Teflon (Disposable Bailer) Centrifugal pump GRUNDFOS Redi-flow pump Other: _____
 Pump lines: NEW/CLEANED/DEDICATED Bailer lines: (NEW) / CLEANED
 Method of cleaning pump: Alconox Liquidnox Tap Water DI Rinse Other: _____
 Method of cleaning bailer: Alconox Liquidnox Tap Water (DI Rinse) Other: _____
 Sampling Method: Teflon Disp. Tef. bailer (Disp. PVC bailer) Redi-Flow 2 pump Other: _____
 pH Meter Serial Number: 330089 Specific Conductance Meter Serial Number: 9640203AB
 Date(s) Calibrated: 7/26/97 @ 9:00 AM Specific Conductance Meter: _____ @ 100 umhos/cm @ _____ °C
 Method to measure water level: Solinst 4142 Specific Conductance Meter: _____ @ 1000 umhos/cm @ _____ °C
 Water Level at Start (DTW): 4.36 Water Level Prior to Sampling: 7.60 ↑
 TD: 20.36 - 4.36 (DTW) x "k" = 2.6 gallons/casing volume x 3 = 7.8 gallons for 3 casing volumes
(k = 0.163 (2" well)) "k" = 0.653 (4" well) "k" = 1.02 (5" well) "k" = 1.46 (6" well) "k" = 2.61 (8" well)

FIELD WATER QUALITY PARAMETERS

Date	Time	Discharge (gallons)	pH	Temp. (°C)	Specific Conductance ms (µS)	Turbidity (NTU's)	Color	Comments
9/26/97	12:24	2	7.22	23.7	1437	Clear	Clear	
	12:27	4	7.26	23.6	1443	"	"	
	12:30	6	7.21	22.3	1409	Low	Cloudy w/ TAN	
	12:35	8	7.26	22.0	1369	"	"	
	12:40	10	7.33	21.6	1340	Moderate	"	
	12:46	12	7.31	21.4	1291	"	"	
	12:50	14	7.30	21.1	1313	High	lt Brown	
	12:54	16	7.32	20.9	1203	"	lt Brown	
	12:59	18	7.30	20.9	1219	"	"	
	1:05	20	7.31	21.1	1220	"	"	
9/26/97	1:13	Aft. Sampl	7.28	21.6	1198	"	"	

Total Discharge: 20 gallons Casing Volumes Removed: 7.7
 Method of disposal of discharged water: 55 gallon Drum
 Date/Time sampled: 9/26/97 @ 1:10 Analysis: 30003 w/MSL (TAN, DTX & ATBE), 1500 ml poly w/HNO3 (Pb)

Comments: _____
 QA/QC: _____ as Eq. Blank Duplicate MS/MSD Split

Sampled By: S. Pannan
 Environmental Sampling Services
 6680 Alhambra Ave. Martinez, CA 94553
 Tel/Fax: (510) 372-8108



American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

WOODWARD-CLYDE CONSULTANTS
500 12TH STREET, STE. 100
OAKLAND, CA 94607

ATTN: XINGGONG TONG
CLIENT PROJ. ID: 961276NA
CLIENT PROJ. NAME: FIRE ST. NO. 2

REPORT DATE: 10/21/97

DATE(S) SAMPLED: 09/26/97

DATE RECEIVED: 09/26/97

AEN WORK ORDER: 9709375

PROJECT SUMMARY:

On September 26, 1997, this laboratory received 1 water sample(s).

Client requested sample(s) be analyzed for chemical parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.


Larry Klein
Laboratory Director

WOODWARD-CLYDE CONSULTANTS

SAMPLE ID: MW-1
 AEN LAB NO: 9709375-01
 AEN WORK ORDER: 9709375
 CLIENT PROJ. ID: 961276NA

DATE SAMPLED: 09/26/97
 DATE RECEIVED: 09/26/97
 REPORT DATE: 10/21/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1.0 *	0.5	ug/L	10/09/97
Toluene	108-88-3	ND	0.5	ug/L	10/09/97
Ethylbenzene	100-41-4	0.6 *	0.5	ug/L	10/09/97
Xylenes, Total	1330-20-7	ND	2	ug/L	10/09/97
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	10/09/97
Methyl t-Butyl Ether	1634-04-4	18 *	5	ug/L	10/09/97
#Digestion, Metals by ICP	EPA 3010	-		Prep Date	09/30/97
Lead	EPA 6010	ND	0.04	mg/L	10/02/97

ND = Not detected at or above the reporting limit
 * = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9709375
CLIENT PROJECT ID: 961276NA

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spikes(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analyses.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behaviour, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrument performance.

D: Surrogates diluted out.

I: Interference.

!: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9709375
 INSTRUMENT: F
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
10/09/97	MW-1	01	95
QC Limits:			70-130

DATE ANALYZED: 10/09/97
 SAMPLE SPIKED: LCS
 INSTRUMENT: F

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	100	88	4	70-130	20
Toluene	100	92	5	70-130	20
Ethylbenzene	100	92	5	70-130	20
Total Xylenes	300	86	7	70-130	20

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

*** END OF REPORT ***

Woodward-Clyde Consultants
 500 12th Street, Suite 100, Oakland, CA 94607-4014
 (510) 893-3600

Chain of Custody Record

PROJECT NO. *Fire St. No. 2*
961276NA Emeryville

SAMPLERS (Signature)
[Signature]

DATE	TIME	SAMPLE NUMBER	Sample Matrix (Soil, Water, Air)	ANALYSES						Number of Containers
				EPA Method	EPA Method	EPA Method	EPA Method	TPH Gas, BTEX, MTBE	Lead (60/0)	
DIA-D	7/26/97	1310	MW-1	W				X	X	4

Questions/Results
 to Xinggang Tong
 (510) 874-3060

7-day
 TAT

TOTAL
 NUMBER OF
 CONTAINERS

4

RELINQUISHED BY : (Signature) <i>[Signature]</i>	DATE/TIME <i>9/24/97/11:20</i>	RECEIVED BY : (Signature) <i>[Signature]</i>	RELINQUISHED BY : (Signature)	DATE/TIME	RECEIVED BY : (Signature)
METHOD OF SHIPMENT : <i>Delivered</i>		SHIPPED BY : (Signature)	COURIER : (Signature)	RECEIVED FOR LAB BY : (Signature)	DATE/TIME